What is claimed is:

1.   An error-correcting code decoding method in which received words are decoded by repetition of a predetermined decode processing, comprising the steps of:

5   setting a plurality of kinds of block that is a processing unit in said decode processing;

setting the size of blocks that are subjected to an initial decode processing for every said kind out of the repeated process of said decode processing at

10   different values, respectively;

setting the size of residual blocks except for finally processed block at a predetermined reference size, respectively; and,

generating a soft output of information symbol of

15   said received words from said received words and a priori distribution values that correspond to reliability of said information symbol of said received words by a unit of said block.

2.   The error-correcting code decoding method as set forth in claim 1, wherein,

where said reference size of said block is represented by B, the number of kinds of said block is

5   represented by n, and the number of repetition of said decode processing at the present instant is represented by k, the size of said blocks that are subjected to said

initial decoding processing is made B(n+1-k)/n.

3.   The error-correcting code decoding method as set forth in claim 1, wherein,

when the number of repetition of said repeated decode processing at the present instant is either one of odd and even numbers, the size of said block that is subjected to said initial decoding processing is set at a half of said predetermined reference size.

4.   An error-correcting code decoding apparatus for decoding received words by repeating a predetermined decode processing comprising:

a received value storing device for storing said received words;

an a priori distribution value storing device for storing a priori distribution values corresponding to reliabilities of information symbols of said received words, respectively;

an input controlling device for reading data that are respectively necessary for decoding processing from said received value storing device and said a priori distribution value storing device;

a soft output generating device for generating soft outputs of said information symbols by a unit of said block from said received words and said a priori distribution values read by said input controlling device; and

a control command generating device for setting a

20   plurality of kinds of block that is a processing unit in

said decoding processing, for setting the size of blocks

that are subjected to an initial decoding processing for

every said kind out of the repeated processings of said

decoding process at different values, respectively, and

25   for setting the size of residual blocks except for

finally processed block at a predetermined reference

size, respectively.

     5.   The error-correcting code decoding

apparatus as set forth in claim 4, wherein,

    where said reference size of said block is

represented by B, the number of kinds of said block is

5   represented by n, and the number of repetition of said

decoding processing at the present instant is

represented by k, said control command generating device

sets the size of said blocks that are subjected to said

initial decode processing at $B(n+1-k)/n$.

     6.   The error-correcting code decoding

apparatus as set forth in claim 4, wherein,

    when the number of repetition of said repeated

decode processing at the present instant is either one

5   of odd and even numbers, said control command generating

device set the size of said block that is subjected to

said initial decode processing at a half of said

predetermined reference size.